

## Appendix A.—Prime Farmlands

Prime farmland is land best suited for producing food, forage, fiber, and oilseed crops and also available for these uses (the land could be cropland, pastureland, rangeland, forest land, or other land but not urban builtup land or water). It has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops economically when treated and managed, including water management, according to modern farming methods.

Prime farmland meets all of the following criteria:

1. The soils have:
  - a. Aquic, udic, ustic, or xeric moisture regimes and an available water capacity of at least 4 inches (10 cm) per 40 to 80 inches (1 to 1.52 meters) of soil to produce the commonly grown cultivated crops (cultivated crops include, but are not limited to, grain, forage, fiber, oilseed, sugarbeets, vegetables, orchard, vineyard, and bush fruit crops) adapted to the region in 7 or more years out of 10; or
  - b. Xeric, ustic, aridic, or torric moisture regimes in which the available water capacity is at least 4 inches (10 cm) per 40 to 60 inches (1 to 1.52 meters) of soil and the area has a developed irrigation water supply that is dependable (a dependable water supply is one in which enough water is available for irrigation in 8 out of 10 years for the crops commonly grown) and of adequate quality; and,
2. The soils have a temperature regime that is frigid, mesic, thermic, or hyperthermic (pergelic and cryic regimes are excluded). These are soils that, at a depth of 20 inches (50 cm), have a mean annual temperature higher than 32 degrees F (0 degrees C). In addition, the mean summer temperature at this depth in soils with an O horizon is higher than 47 degrees F (8 degrees C); in soils that have no O horizon, the mean summer temperature is higher than 59 degrees F (15 degrees C); and,
3. The soils have a pH between 4.5 and 8.4 in all horizons within a depth of 40 inches (1 meter); and,
4. The soils either have no water table or have a water table that is maintained at a sufficient depth during the cropping season to allow cultivated crops common to the area to be grown; and,
5. The soils can be managed so that, in all horizons within a depth of 40 inches (1 meter), during part of each year the conductivity of the saturation extract is less than 4 mmhos/cm and the exchangeable sodium percentage (ESP) is less than 15; and,
6. The soils are not flooded frequently during the growing season (less often than once in 2 years); and,
7. The product of K (erodibility factor) x percent slope is less than 2.0; and,
8. The soils have a permeability rate of at least 0.06 inch (0.15 cm) per hour in the upper 20 inches (50 cm) and the mean annual soil temperature at a depth of 20 inches (50 cm) is less than 59 degrees F (15 degrees C); the permeability rate is not a limiting factor if the mean annual soil temperature is 59 degrees F (15 degrees C) or higher; and,
9. Less than 10 percent of the surface layer [upper 6 inches (15 cm)] in these soils consists of rock fragments coarser than 3 inches (7.6 cm); and,
10. The soils have a minimum rooting depth of 40 inches (1 meter).